# BookletChart™

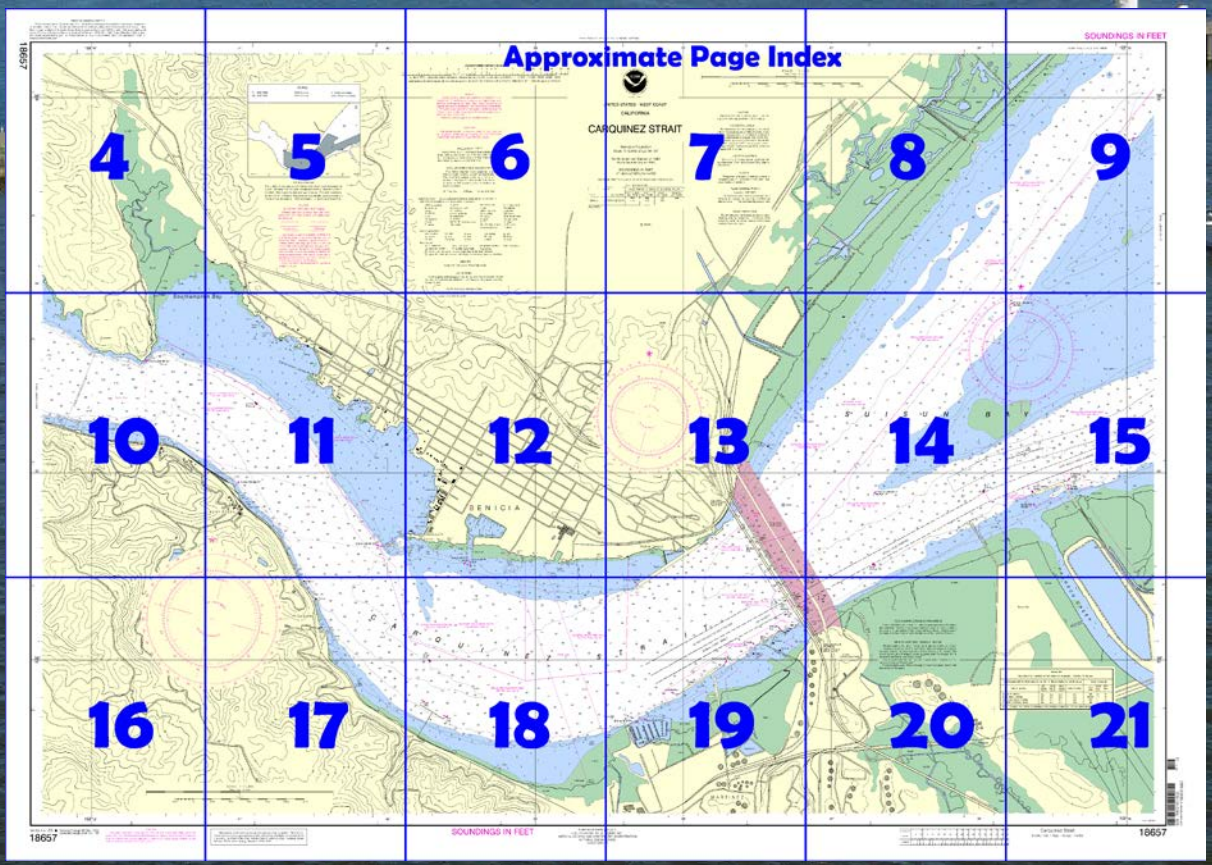
## Carquinez Strait

### NOAA Chart 18657

***A reduced-scale NOAA nautical chart for small boaters***

***When possible, use the full-size NOAA chart for navigation.***


- *Complete, reduced-scale nautical chart*
- *Print at home for free*
- *Convenient size*
- *Up-to-date with Notices to Mariners*
- *Compiled by NOAA's Office of Coast Survey, the nation's chartmaker*



***Published by the***
***National Oceanic and Atmospheric Administration***
***National Ocean Service***
***Office of Coast Survey***
***www.NauticalCharts.NOAA.gov***
***888-990-NOAA***

### What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

### What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

### Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

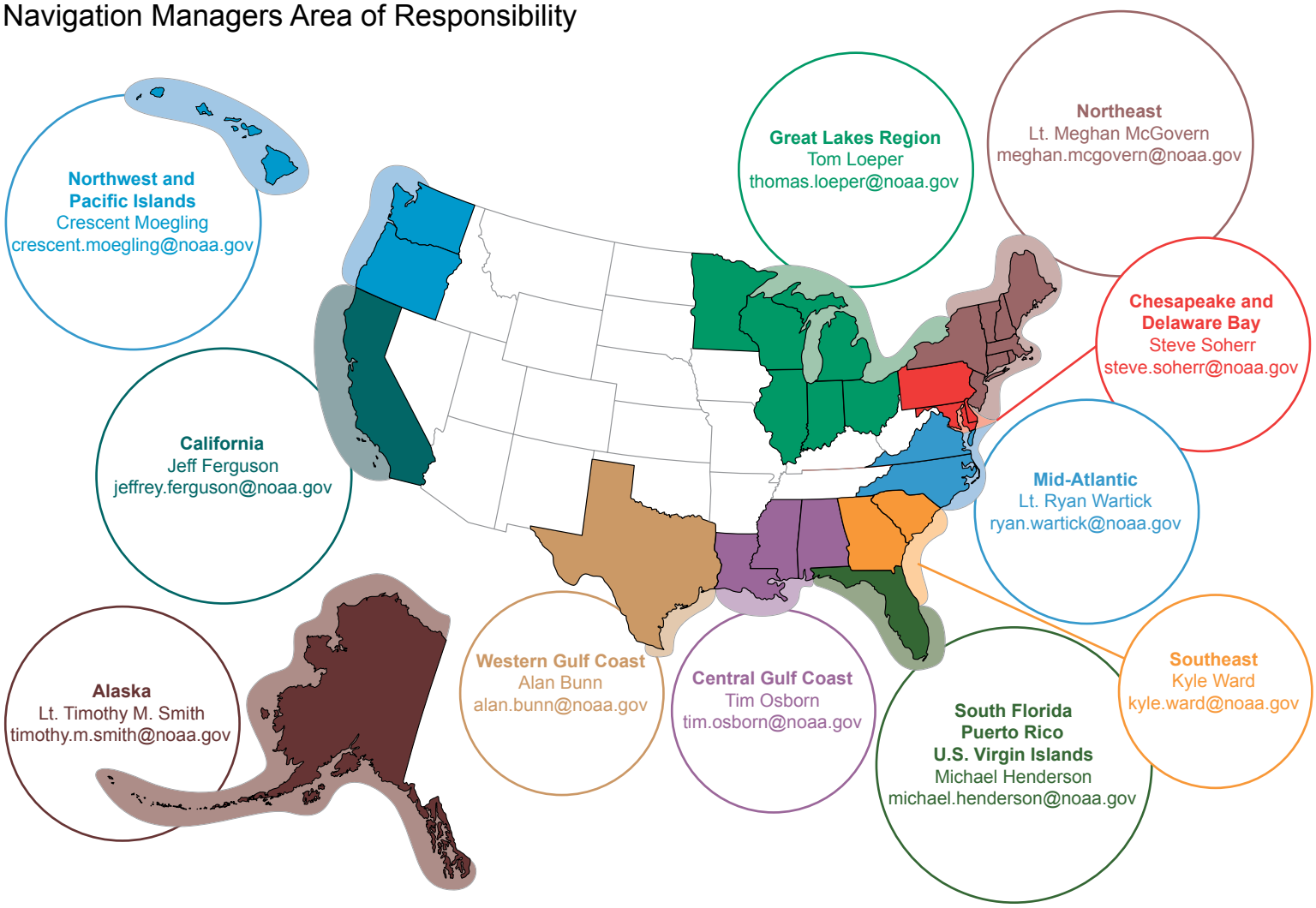
For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=18657.


**(Selected Excerpts from Coast Pilot)**
A light is 130 yards off the S side of Carquinez Strait, 1.5 miles E of Interstate Route 80 fixed highway bridges; a light is off **Port Costa**, 0.6 mile to the E. On the N side of the strait, a light is on **Dillon Point** and another is off **Benicia Point**.
The Defense Fuel Supply Center Support Point, Ozol Oil Wharf, at **Ozol**, is 1.6 miles SE of Port Costa. The 270-foot offshore wharf, marked by lights on the E and W ends, has 880 feet of berthing space with dolphins; 37 feet alongside; deck height 8 feet; water/electrical shore power connections are available; owned by the U.S. Government, operated by Blaiz Co., Inc.
There are three wharves extending out to deep water at **Martinez**, 2 miles SE of Point Carquinez.
The westernmost of these facilities is the municipal fishing pier with a tugboat slip on its W side. A small-boat harbor, protected by breakwaters, is on the E side of the pier. A private light is on the channel end of both breakwaters. In 1994, shoaling to a depth of about 4 feet was reported at the entrance to the marina.
The Shell Oil Co., Martinez Refinery Wharf, E of the municipal fishing pier, is a 900-foot offshore wharf, 1,850 feet usable with dolphins; depth of 42 feet alongside decreasing to 39 feet at the W end; deck height is 15 feet; water and electrical shore power connections are available; owned and operated by Shell Oil Co. The wharf is marked by private lights and a sound signal. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)
The Tesoro Amorco Pier, Upper and Lower Wharves, 400 yards E of the Shell Oil Co. Wharf, have depths of 35 feet alongside and both are used for bunkering vessels as well as the receipt and shipment of petroleum products. The W wharf is a 76-foot offshore wharf with 281 feet usable with dolphins; depth of 35 feet alongside; deck height is 15 feet. The E wharf is a 76-foot offshore wharf with 512 feet usable with dolphins; deck height is 17 feet. The wharves provide 978 feet of continuous berthing space; owned and operated by Tesoro Corp. Both wharves are marked by private lights. A **security zone** has been established around the wharves. (See **165.1197**, chapter 2, for limits and regulations.)
**Benicia** is on the N shore at the E end of Carquinez Strait. Most of the smaller piers around the town are in ruins.
A marina, protected by breakwaters, is at Benicia. Private lights on the breakwater mark the entrance. (See the small-craft facilities tabulation on Chart 18652 for services and supplies available.)
In 1988, a sunken wreck with a least depth of 21 feet was reported about 600 yards WSW of the Port of Benicia in about 38°02'17.5"N., 122°08'39.6"W.
The **Port of Benicia** is at Army Point at the E end of the town. Highway and railroad connections, and water and electrical shore power connections are available at all of the facilities.
Valero-Benicia Refinery (38°02'41"N., 122°07'45"W.): 1,100 feet of berthing space; 40.4 feet alongside; deck height, 15 feet; receipt and shipment of petroleum products; receipt of crude oil; owned and operated by Valero Energy Corp. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)
Benicia Industries, Wharf No. 95 (38°02'28"N., 122°08'05"W.): 2,404 feet of berthing space; 38 feet alongside; deck height, 11 to 15 feet; receipt of automobiles and crude oil; receipt and shipment of general cargo; shipment of bagged rice, petroleum coke, and petroleum products; owned by Benicia Industries, Inc., and operated by various companies.
**Bulls Head Point**, just E of the S end of the bridge, shows as a 100-foot rounding hill with a prominent high white stack.
The Tesoro Corporation, Avon Refinery Wharf extends across the flats at **Avon**, 1.5 miles E of the Suisun Point bridges. Total berthing space is 1,320 feet; depths alongside the channel face are 32 feet; deck height is 19 feet, with 14 feet at the center section. Tankers berth along the channel side of the face, and barges along the inshore side of the face; receipt and shipment of petroleum products; owned and operated by Tesoro Corporation. Private lights and sound signals are on the outer ends of the pier.

**U.S. Coast Guard Rescue Coordination Center**
**24 hour Regional Contact for Emergencies**

| | | |
|---|---|---|
| RCC Alameda | Commander<br>11th CG District<br>Alameda, CA | (510) 437-3700 |

# Navigation Managers Area of Responsibility




**NOAA's navigation managers** serve as ambassadors to the maritime community. They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit *nauticalcharts.noaa.gov/service/navmanagers*

To make suggestions or ask questions online, go to *nauticalcharts.noaa.gov/inquiry*.
To report a chart discrepancy, please use *ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx*.

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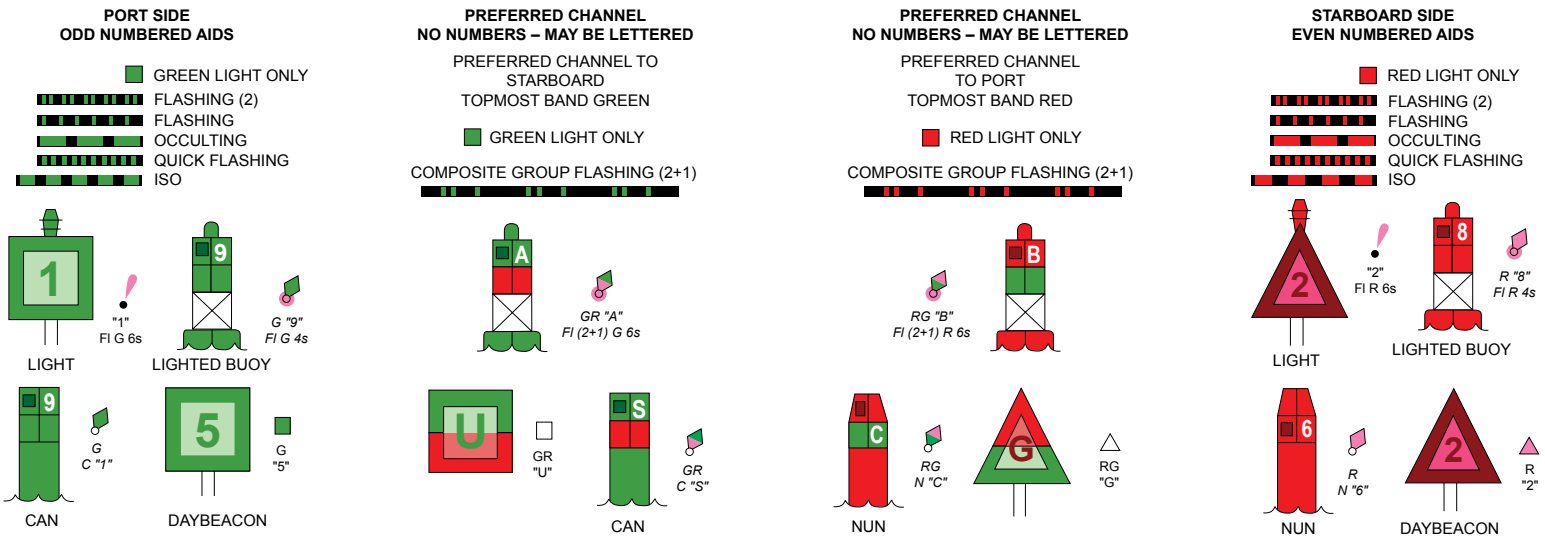
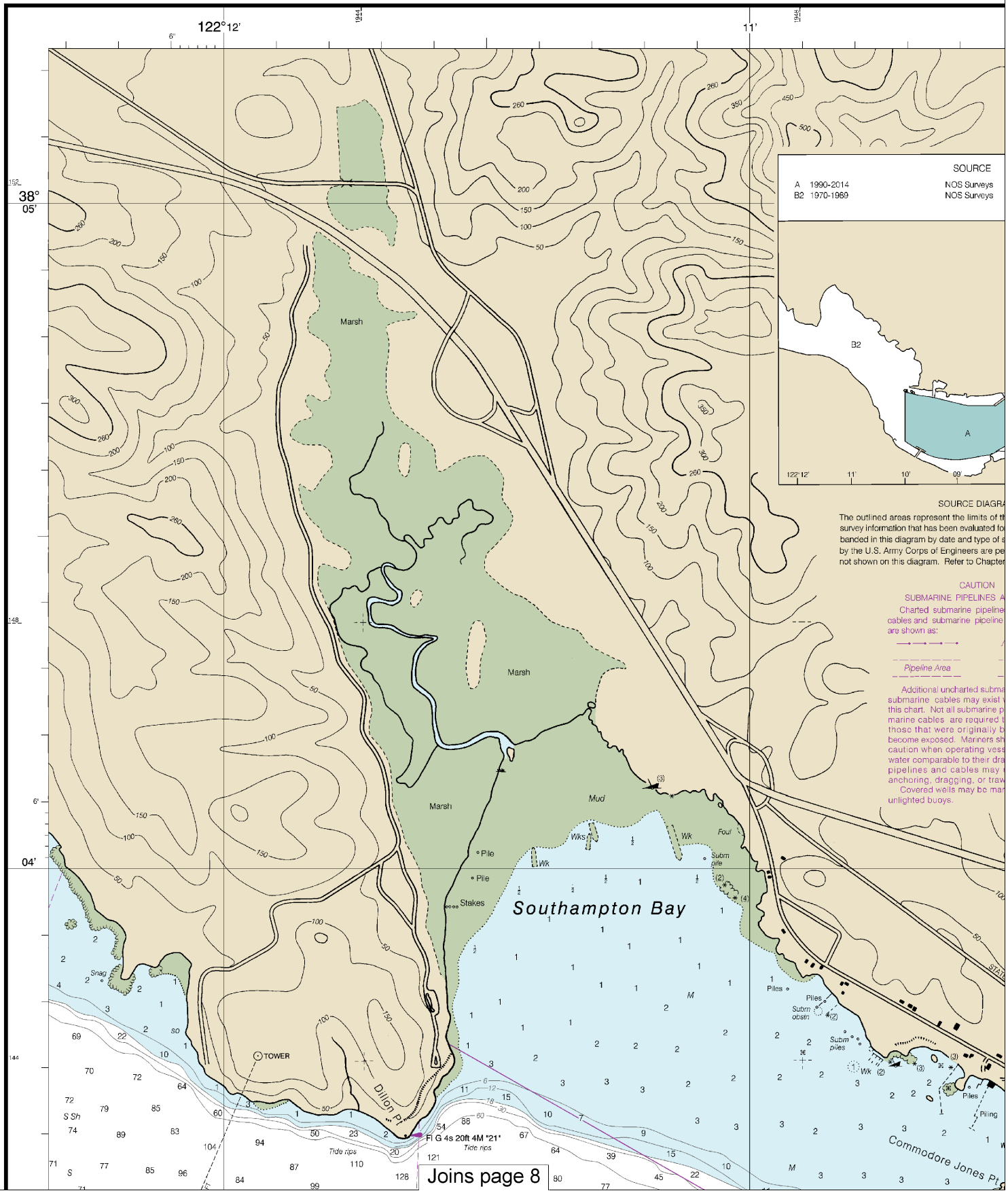
# Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers




For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at *http://www.navcen.uscg.gov*

NOAA encourages users to submit inquiries, discrepancies or comments about this chart at http://www.nauticalcharts.noaa.gov/staff/contact.htm.




Joins page 8

4

Note: Chart grid lines are aligned with true north.

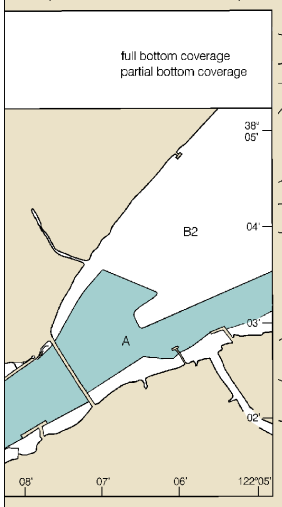
Printed at reduced scale. ~~SCALE 1:10,000~~

Nautical Miles
0

Yards
200 0 200 400 600 800 1000 1200

See Note on page 5.

10' 09'




NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, California or at the Office of the District Engineer, Corps of Engineers in San Francisco, California.

Refer to charted regulation section numbers.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Mt. Pise, CA KHB-49 162.40 MHz WX2

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

| | | | |
|---|---|---|---|
| AERO aeronautical | G green | Mo morse code | R TR radio tower |
| Al alternating | IQ interrupted quick | N nun | Rot rotating |
| B black | Iso isophase | OBSC obscured | s seconds |
| Bn beacon | LT HO lighthouse | Oc occulting | SEC sector |
| C can | M nautical mile | Or orange | St M statute miles |
| DIA diaphone | m minutes | Q quick | VQ very quick |
| F fixed | MICRO TR microwave tower | R red | W white |
| Fl flashing | Mkr marker | Ra Ref radar reflector | WHIS whistle |
| | | R Bn radiobeacon | Y yellow |

Bottom characteristics:

| | | | | |
|---|---|---|---|---|
| Blds boulders | Co coral | gy gray | Oys oysters | so soft |
| bk broken | G gravel | h hard | Rk rock | Sh shells |
| Cy clay | Grs grass | M mud | S sand | sy sticky |

Miscellaneous:

| | | | |
|---|---|---|---|
| AUTH authorized | Obstn obstruction | PD position doubtful | Subm submerged |
| ED existence doubtful | PA position approximate | Rep reported | |

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, and U.S. Coast Guard.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

RAM
the most recent hydrographic
for charting. Surveys have been
f survey. Channels maintained
periodically resurveyed and are
ter 1, United States Coast Pilot.

AND CABLES
nes and submarine
e and cable areas
Cable Area
marine pipelines and
d within the area of
pipelines and sub-
to be buried, and
buried may have
should use extreme
ssels in depths of
raft in areas where
y exist, and when
awling.
arked by lighted or

CA

Add

Name
Benicia
(Sep 2

Joins page 6

INTERSTATE HIGHWAY 780
ATE HIGHWAY 21
WK
Trailer camp

Joins page 9

This BookletChart was reduced to 70% of the original chart scale. The new scale is 1:14285. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.

rly C&GS 5574, 1st Ed., Jun. 1953 G-1953-825 KAPP 1850

08' 07'

SCALE 1:10,000
Nautical Miles
0
Yards
200 0 200 400 600 800 1000 1200

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
COAST SURVEY

UNITED STATES - WEST COAST

CALIFORNIA

# CARQUINEZ STRAIT

Mercator Projection
Scale 1:10,000 at Lat 38° 03'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

| Place Name | (LAT/LONG) | Height referred to datum of soundings (MLLW) Mean Higher High Water | Mean High Water | Mean Low Water | Extreme Low Water |
|---|---|---|---|---|---|
| | | feet | feet | feet | feet |
| Benicia | (38°03'N/122°08'W) | 5.3 | 4.8 | 0.9 | --.-- |

(o 2005)

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.287" southward and 3.874" westward to agree with this chart.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

PLANE COORDINATE GRID
(based on NAD 1927)

The California State Plane Coordinate Grid (Zone II) is indicated on this chart at 4,000 foot intervals, thus: -|- The last three digits are omitted.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

Joins page 5

STACK

INTERSTATE HIGHWAY 680

Marsh

UP RR

Ditch

Marsh

Marsh

STACK

Snag

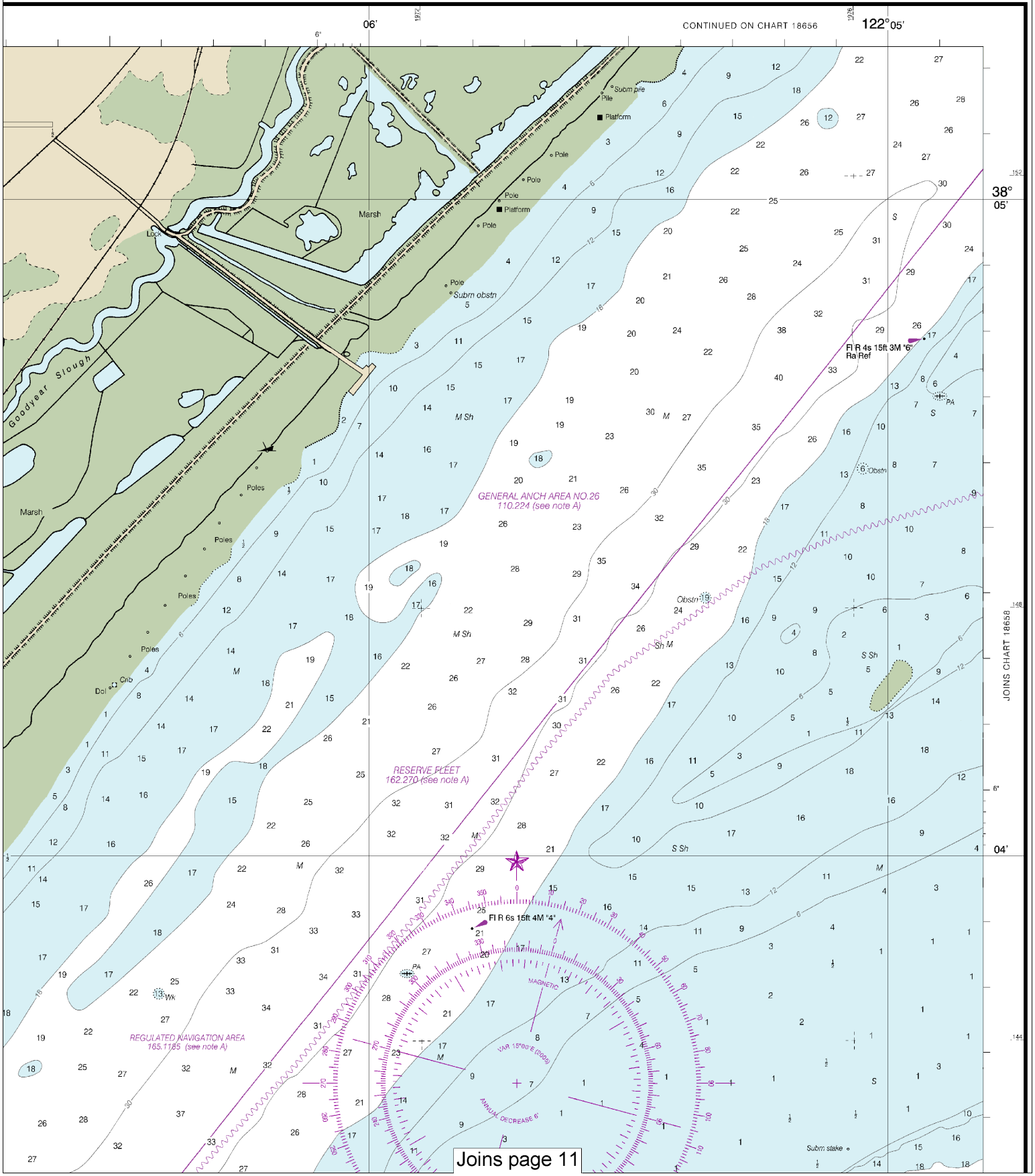
Joins page 10



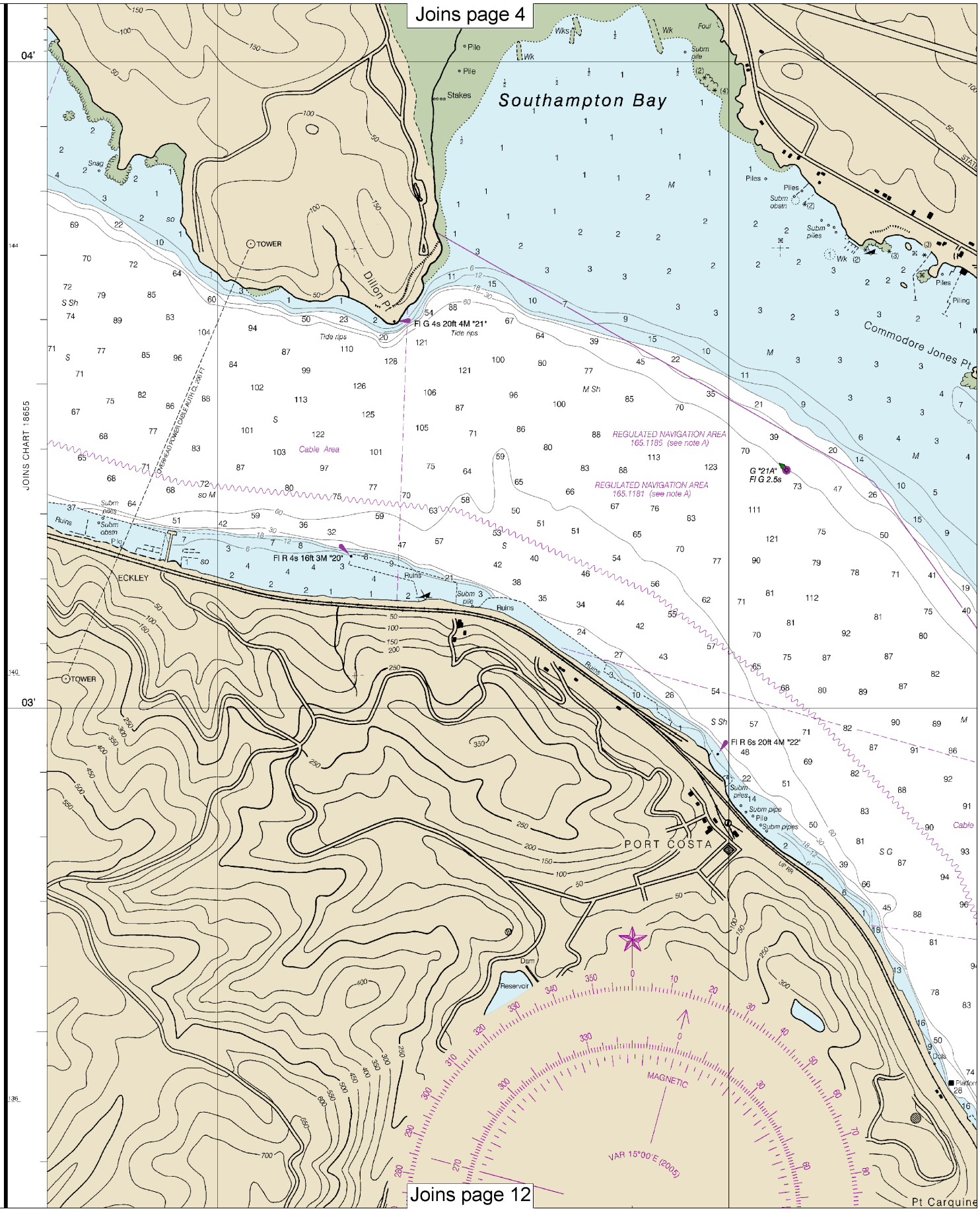
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:10,000~~ See Note on page 5.

Nautical Miles
0
Yards
200 0 200 400 600 800 1000 1200




Joins page 11




8

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:10,000~~

Nautical Miles

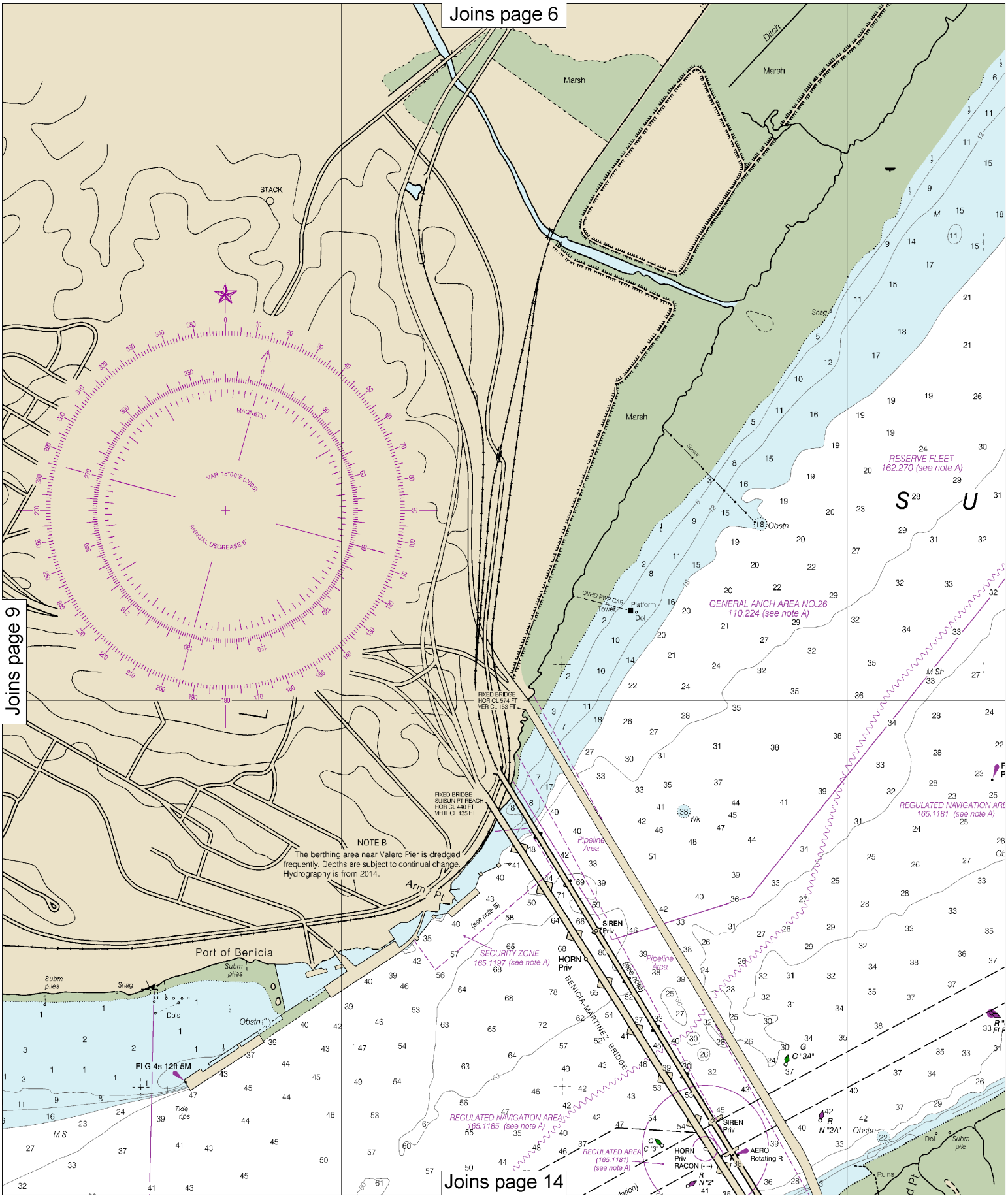
0

Yards

200 0 200 400 600 800 1000 1200

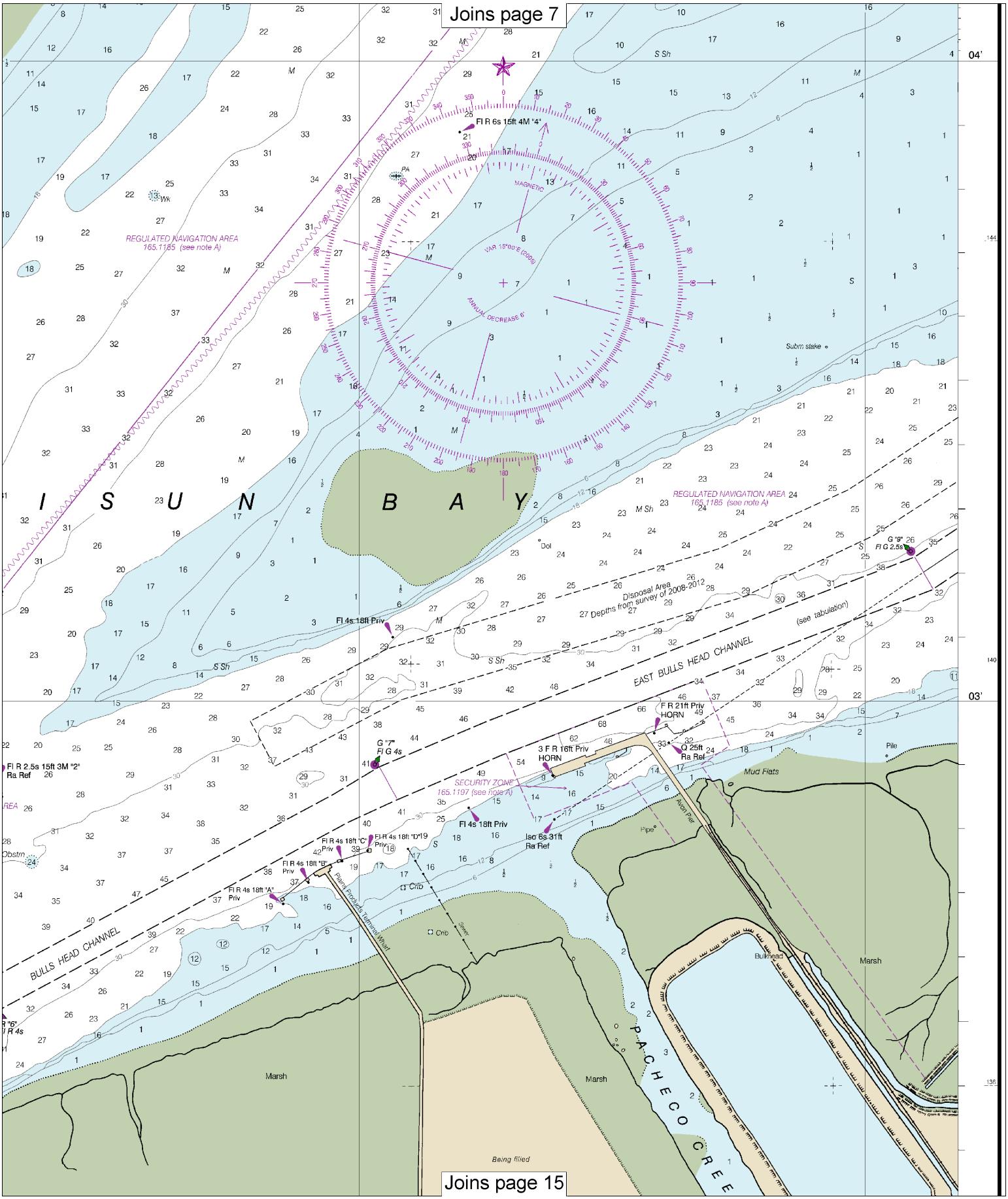
See Note on page 5.

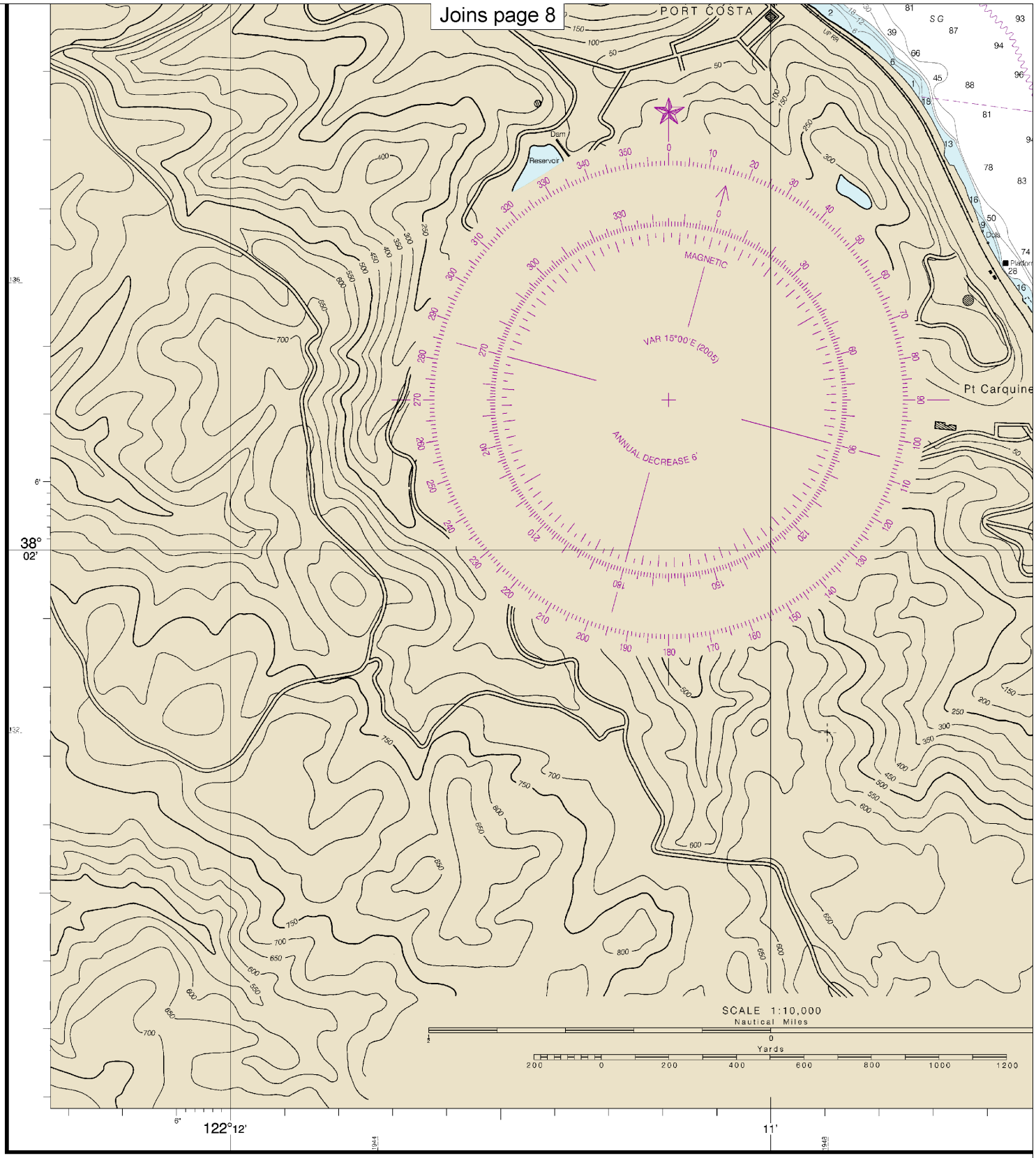

Joins page 5
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, and U.S. Coast Guard.
SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 7 for important supplemental information.
INTERSTATE HIGHWAY 780
Trailer camp
Ramp
GENERAL ANCH AREA NO. 24
110.224 (see note A)
SPIRE
BENICIA
Benicia Pt
City Wharf
Fl G 4s 20ft 4M "23"
Fl G 5s 5ft "1" Priv
Fl R 5s 5ft "2" Priv
Changeable Area
Joins page 10
Joins page 13






Note: Chart grid lines are aligned with true north.


Joins page 7
I S L E S U N B A Y
REGULATED NAVIGATION AREA
165.1185 (see note A)
Fl R 6s 15ft 4M "4"
MAGNETIC
VAR 15°00'E (2005)
ANNUAL DECREASE 6'
Subm stake
Dol
M Sh
S Sh
Fl 4s 18ft Priv
Disposal Area
27 Depths from survey of 2008-2012
(see tabulation)
EAST BULLS HEAD CHANNEL
G "7" Fl G 4s
Fl R 2.5s 15ft 3M "2"
Ra Ref
SECURITY ZONE
165.1197 (see note A)
3 F R 16ft Priv
HORN
F R 21ft Priv
HORN
Q 25ft
Ra Ref
Iso 6s 31ft
Ra Ref
Fl 4s 18ft Priv
Fl R 4s 18ft "A" Priv
Fl R 4s 18ft "B" Priv
Fl R 4s 18ft "C" Priv
Fl R 4s 18ft "D" Priv
Crib
Shaft
Piping Products Tethered Mbuoy
BULLS HEAD CHANNEL
Mud Flats
Pile
Avon Reef
Bulkhead
Marsh
P A C H E C O C R E E K
Being filled
Joins page 15
04'
03'




CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner.

# 18657

19th Ed., Nov. 2005. Last Correction: 10/26/2016. Cleared through:
LNM: 4816 (11/29/2016), NM: 5016 (12/10/2016)



Note: Chart grid lines are aligned with true north.

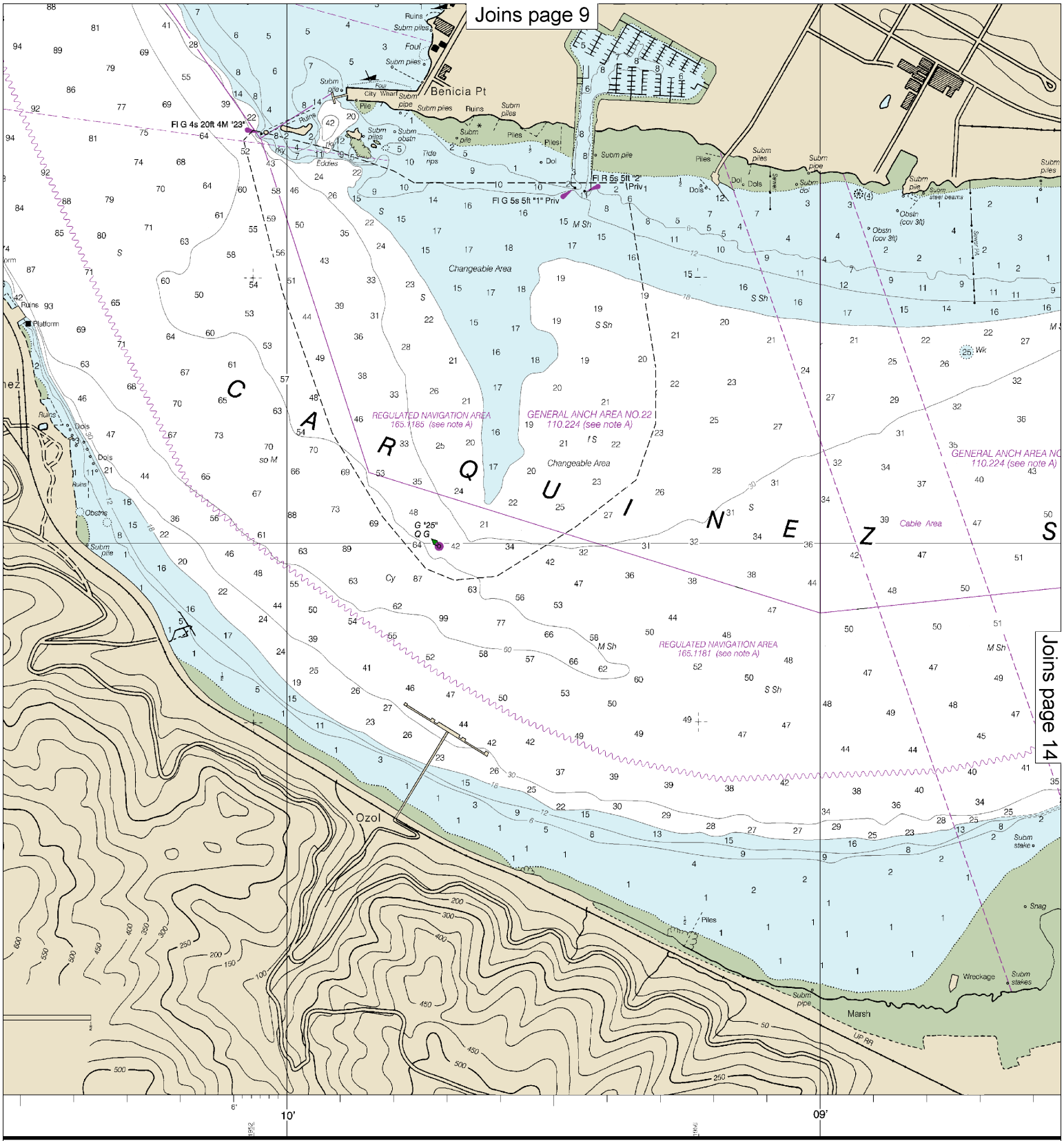
Printed at reduced scale. ~~SCALE 1:10,000~~ See Note on page 5.

Nautical Miles

0

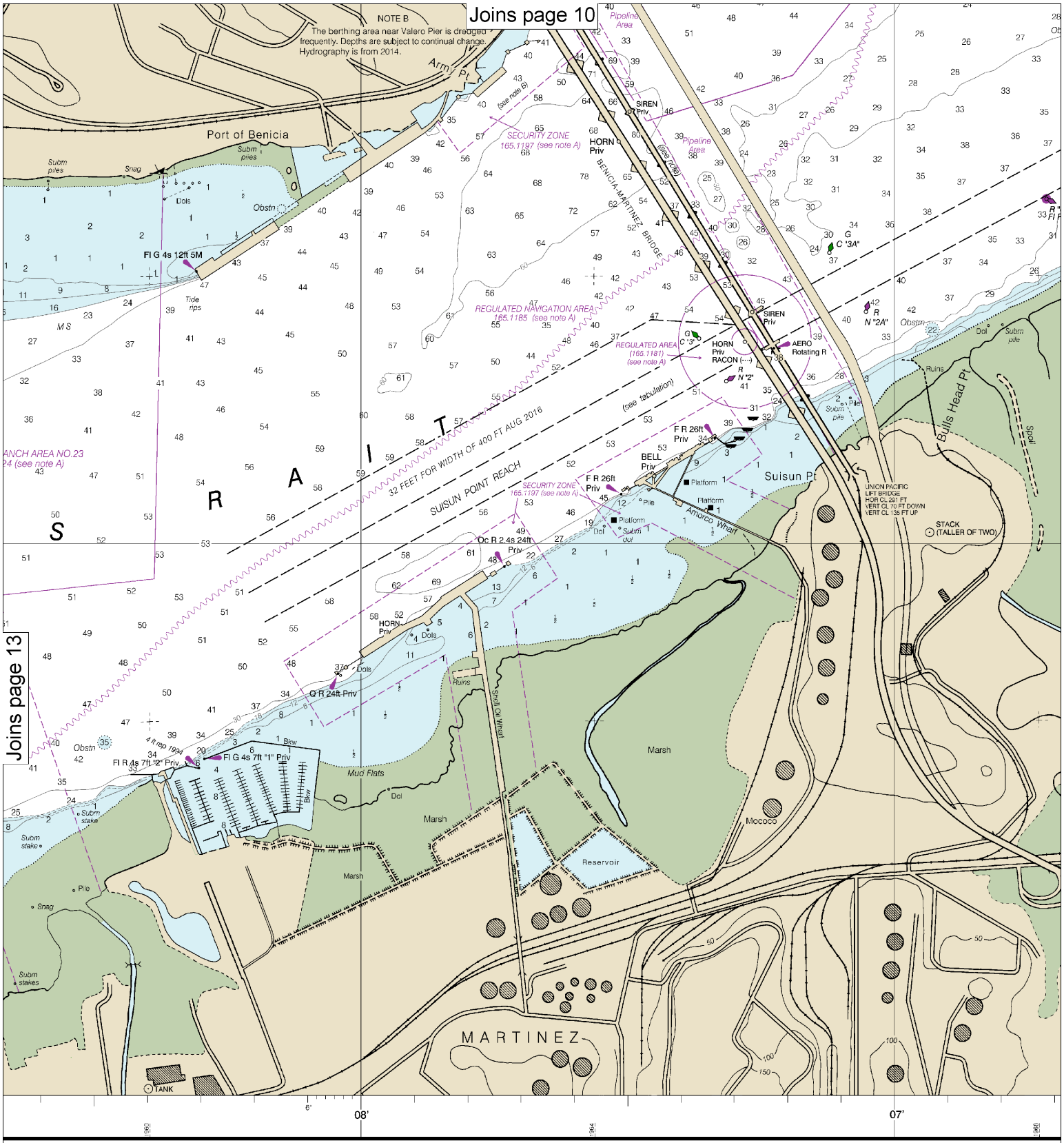
Yards

200 0 200 400 600 800 1000 1200




SOUNDINGS IN FEET

Published at Wash
U.S. DEPARTMENT O
NATIONAL OCEANIC AND ATMOS
NATIONAL OCEAN
COAST SUR




ished at Washington, D.C.
PARTMENT OF COMMERCE
C AND ATMOSPHERIC ADMINISTRATION
IONAL OCEAN SERVICE
COAST SURVEY

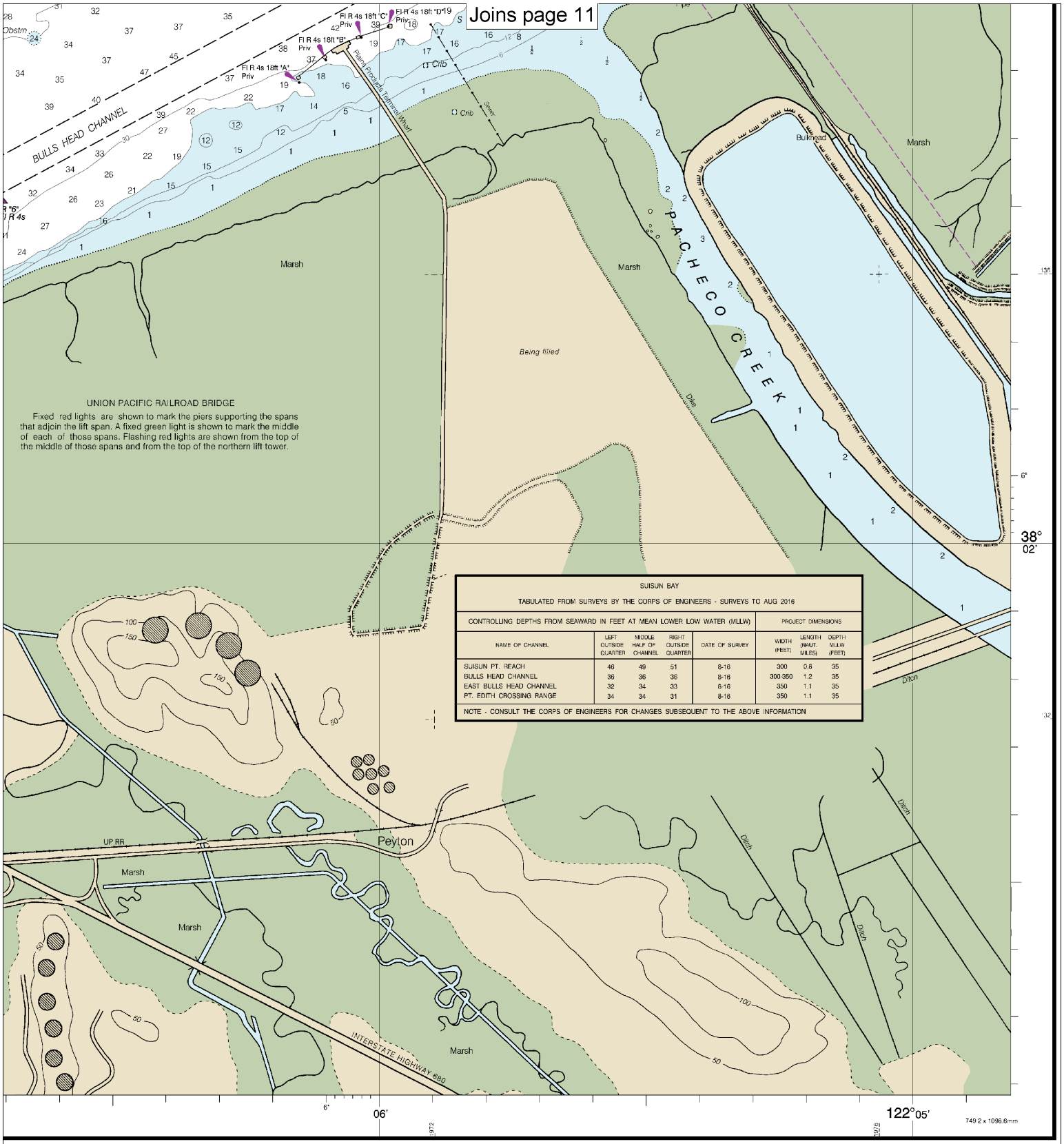


Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:10,000~~ See Note on page 5.

Nautical Miles
0

Yards
200 0 200 400 600 800 1000 1200




FATHOMS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
FEET 6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96 102
METERS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Carquinez Strait
SOUNDINGS IN FEET - SCALE 1:10,000

18657

EMERGENCY INFORMATION

## VHF Marine Radio channels for use on the waterways:

**Channel 6** – Inter-ship safety communications.
**Channel 9** – Communications between boats and ship-to-coast.
**Channel 13** – Navigation purposes at bridges, locks, and harbors.
**Channel 16** – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
**Channel 22A** – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
**Channels 68, 69, 71, 72 and 78A** – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

### Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

**HAVE ALL PERSONS PUT ON LIFE JACKETS!**

All Hazards NOAA Weather Radio NOAA's National Weather Service

**NOAA Weather Radio All Hazards (NWR)** is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
**http://www.nws.noaa.gov/nwr/**

## Quick References

| | | |
|---|---|---|
| Nautical chart related products and information | — | **http://www.nauticalcharts.noaa.gov** |
| Interactive chart catalog | — | **http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml** |
| Report a chart discrepancy | — | **http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx** |
| Chart and chart related inquiries and comments | — | **http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs** |
| Chart updates (LNM and NM corrections) | — | **http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html** |
| Coast Pilot online | — | **http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm** |
| Tides and Currents | — | **http://tidesandcurrents.noaa.gov** |
| Marine Forecasts | — | **http://www.nws.noaa.gov/om/marine/home.htm** |
| National Data Buoy Center | — | **http://www.ndbc.noaa.gov/** |
| NowCoast web portal for coastal conditions | — | **http://www.nowcoast.noaa.gov/** |
| National Weather Service | — | **http://www.weather.gov/** |
| National Hurrican Center | — | **http://www.nhc.noaa.gov/** |
| Pacific Tsunami Warning Center | — | **http://ptwc.weather.gov/** |
| Contact Us | — | **http://www.nauticalcharts.noaa.gov/staff/contact.htm** |

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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

NOAA's Office of Coast Survey The Nation's Chartmaker